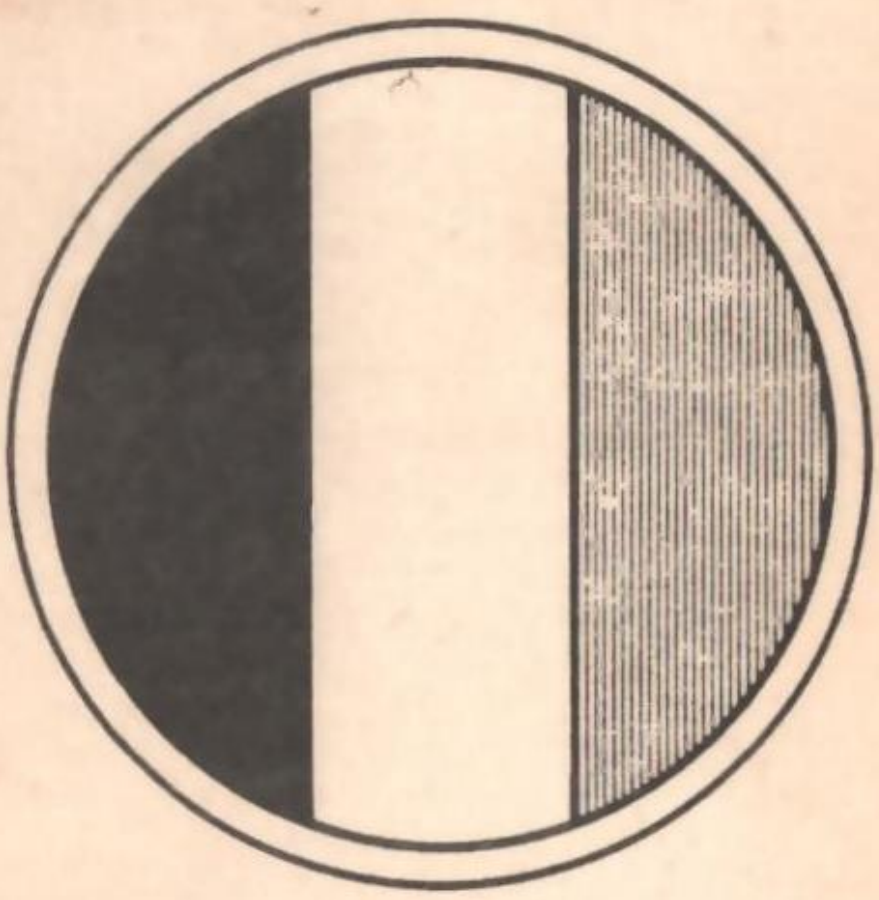
TRADOC PAMPHLET NO. 600-11

GUIDELINES FOR THE CONDUCT OF PERFORMANCE ORIENTED TRAINING



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SECTION I

INTRODUCTION TO PERFORMANCE TRAINING

The soldier today is confronted with a variety of skills and tasks that he must perform in his MOS when he is assigned to a unit. The objective of each training course, beginning with BCT and on through AIT, is to teach the soldier to perform the high priority and essential skills of his MOS which he will later use while on the job. Ideally, if time and resources permitted, all training would be conducted on the job. Since this is not feasible when training large numbers of soldiers, the "job" must be brought to the Training Center. This is what a performance-oriented training system is all about. In performance training, the soldier learns by performing or doing the skills and tasks required in the actual job--essential skills and tasks he must know in order to work successfully in his MOS within his unit.

The philosophy of the entire performance-oriented training system places emphasis on the individual as opposed to the group. For many years, the system of training in the Army specified a given number of hours in a subject to all students, without any comprehensive system of determining the individual achievement or needs of each student. Notable exceptions have been the rifle marksmanship course and the physical fitness program, where scoring is done on an individual basis, indicating to each soldier his progress in those subjects. In other areas, however, the acquisition of skills was less certain. The class was taught in a group; a specific lesson plan was covered by the instructor over a given period; no performance checks were given during instruction to determine whether each student had or had not learned the skills. In performance training, the objective for each subject is that every student be able to perform the required skills to given standards. The training monitor no longer follows a rigid lesson plan; instead he concentrates on seeing to it that all his students learn

the performance measures specified in the performance tests. The focus is on the individual--his training and his proficiency. It is true that faster learners will progress through a subject more quickly than slower learners, but, under this approach, the monitor knows that his fast and his slow learners have mastered the skills and that they will be able to perform on the job once they get to their units. The monitor's objective is to train soldiers to perform a job. Performance training takes more effort than the lecture or demonstration methods of instruction because it requires that attention be given to each individual student during skill practice and testing. Training individuals--not groups--however, is the mission of the instructor in a Training Center.

The purpose of this Manual is to provide guidelines for achieving this objective to those people responsible for conducting and monitoring training in basic and MOS-related skills.

This TRADOC circular provides guidance on the conduct of performance oriented training. TC 21-5-2 (test edition), Training Management Digest #2, dated September 1973, also describes performance oriented training in considerable detail. Accordingly, it is recommended to the reader as a companion reference to this document.

SECTION II

USING PERFORMANCE TESTS

The tasks which soldiers perform in their MOS assignments are well known and are documented. Selecting the high priority or most frequently performed skills which make up the tasks and duties of a soldier in performing in his MOS will, in turn, determine the objectives and content of the training course. These decisions are usually made by Systems Engineering or through a "jury of experts" composed of representatives from the Proponent Agency for a training course and experienced, qualified experts in the MOS.

The soldier undergoing a performance training course is faced with the requirement to perform skills or tasks that are required in an MOS assignment. His performance of the skills or tasks must be complete--on a 100% basis. (It serves no purpose for a soldier to be given a task and then to let him pass on less than a 100% basis when actual job conditions for his MOS require that he must perform the task completely.) It is not expected that the standards applied in training should be the same as might be applied to an experienced soldier who has served in the job for many months. The proficiency of the training course graduate should meet defined, minimum job entry-level standards. To attain the minimum standards of performance to meet MOS requirements, a period of practice is provided before the soldier is required to perform skills on his own without coaching (e.g. on a test). Some of the more complex or difficult skills take more practice time than the relatively simple ones. Whatever practice time is allocated, every soldier must meet the set standards and must perform all job requirements with 100% accuracy. The evaluation of each soldier's proficiency is made through performance tests which are given by training monitors--those of you who are responsible for seeing to it that soldiers

are trained in the required skills. You may never be required to write or develop performance tests, but in today's Army you will surely be required to administer and grade performance tests. You may already be assigned to a training course with this requirement.

The following section presents some information and guidelines about the structure, use and giving of performance tests. Since performance training is build around the tests, and since you will probably (at some time or another) be responsible for giving and grading the tests, this important section is given priority.

What are Performance Tests?

One purpose of tests is to measure the results of training--to find out whether people have learned to perform certain required skills.

Performance tests form one category of tests used to measure the results of training. They are used to find out what skills or job duties people are able to do, rather than what they might possibly know or be able to recite about the job. Since a large part of Army training is involved with the teaching of skills--such as firing of weapons, operation of a switchboard, assembly of a missile, preparation of meals--performance tests are often used. They are used because they are the most direct way the Army has of checking whether soldiers can actually do (not talk about) the job or set of skills required and expected of them when they have completed training.

The importance of performance tests lies in their directness. A soldier might be able to describe how he would go about disassembling a weapon, baking a cake or driving a track vehicle, but it is not the same thing as actually performing or doing those things.

Performance tests, when well-constructed, are objective; that is, they make certain that each person measured and rated by the test is measured and rated in the same way as all others taking the test. An objective test tries to give everyone the same opportunity to show what he can do. To make sure that performance tests are as objective as possible, they always include three important elements:

a. First, they set up standard conditions under which all men should be tested. This includes spelling out exactly what instructions should be given to each person taking the test, what equipment is needed for each person to take the test, and what arrangements need to be made so that all people are tested under the same conditions.

b. Second, performance tests list the exact steps a person must follow in performing the skills that are being tested, to ensure that all people are tested in the same way. The steps are often taken from official Army documents that establish the standard way the Army has chosen for performing skills. For example, a performance test will give the standard procedure for assembling a weapon and list the important steps a person must follow when he assembles a weapon. For a performance test to be objective, it must list exactly what steps or what tasks must be done to show the extent of a person's learning. If a test does not include the exact steps or tasks a person must do, then it cannot be objective, and there would be no way for the tester to measure each person's performance on an equal basis and in the same way. One tester might say "this step is important and that one isn't" while another tester might say just the reverse. It is for this reason that performance tests list the exact steps or give specific tasks to be performed so that tests will always be given and interpreted in the same way.

c. Finally, performance tests set up specific standards which must be applied to all persons taking the performance test--so that each person is rated like all others. Performance test standards almost always include time limits and required procedures; some will describe the product required.

Time limits simply mean that the skill must be performed correctly within a certain time.

Standards relating to procedures require that certain steps be followed in the performance of the task. If certain steps are omitted or done in the wrong order, then the person may not meet the standard. The idea behind the use of such a standard is quite simple. There is no such thing as performing a skill half-right and half-wrong. Either a soldier can stand at attention or he cannot; there is no half-way point. Some performance tests may include a margin of error. For example, a performance test in land navigation may allow a soldier to plot an azimuth within a tolerance of plus or minus five degrees. If his answer falls within that range, he has met the standard. Other tests may allow a person to vary the order in which he performs certain steps of a procedure, because the order is not critical.

Some standards may include requirements related to final products. Sometimes, procedures followed in turning out the end-product may be less important than the quality of the product itself. However, if procedures are followed correctly, chances are that the product will meet the standard. For example, if a hand field wire splice (product) pulls apart under pressure, you would know that the procedures in making the splices were not done right. At other times, grading of the process (procedure) is more important than the grading of the product. A cook, for example, must know baking procedures (mixing, measuring, timing) in order to turn out a proper product. In that case, the standards would be concentrated on procedures rather than

product--a cake may look good but taste bad due to omission of an ingredient.

When a performance test defines conditions, lists procedures, and includes standards for giving the test, then the test has been built so that it is possible to give it and score it in an objective manner.

However, the quality of testing depends a great deal upon the people who give the tests. If they depart from the standards set up in the performance test, if they think the procedure is wrong or too hard, if they vary the conditions from one person to the next, then they destroy the objective nature of the test. If testers do these things, there is no objective way of knowing what people can do or what they have learned; there is no way of knowing which soldiers need to be retrained; no way of telling them exactly what they did wrong and what they did right; no way of knowing whether the training was adequate or not.

Format of Army Performance Tests

As an illustration of performance test format, let's look at the format the Army has adopted for tests given during Basic Combat Training (BCT). A concrete example can give a good idea about how objective performance tests can be built.

Read the following performance test for placing the TA-1 telephone into operation. After you have read it, the various parts of the test will be looked at separately.

"PERFORMANCE TEST 1:
PLACING THE TELEPHONE,
TA-1, INTO OPERATION

Test Situation:
(TESTER WILL READ TO TRAINEE)

"At this station, you must place the Telephone Set, TA-1, into operation and conduct a communication check. You will have 3 minutes."

Test Condition:

Indoors or outdoors. Telephone will be properly stowed.

Necessary Equipment:

Telephone set TA-1/PT. TL-13A wire pliers. WD-1/TT field wire.

Performance Measure 1:

REMOVE FROM CASE.

Open the case and remove the telephone.

Performance Measure 2:

CONNECT WIRE.

a. Strip approximately 1 inch of insulation from the field wire.

b. Connect the field wire to the binding posts.

Performance Measure 3:

ADJUST BUZZER.

Turn the buzzer control knob to the LOUD position.

Performance Measure 4:

COMMUNICATION CHECK.

a. Depress the generator lever to signal the other station.

b. When the signal is answered by tester, depress the PUSH-TO-TALK switch and talk.

Test Standard:

The trainee must correctly accomplish each step. If any step is omitted or is incorrectly performed, the trainee will be a "NO-GO" on this test. The trainee's sequencing of Performance Measures 2 and 3 will not be graded but no step may be omitted. Performance Measure 4, however, is the final step in the sequence."

The performance test you have just read is a relatively direct document. It contains the following elements:

* The title which states the purpose of the test--what exact skills will be tested.

* The test situation, which gives the instructions which must be read to the person taking the test.

* The test condition, which describes how and where the test should be given.

* The necessary equipment, which lists what equipment must be provided for the person taking the test.

* The performance measures, which list the steps the person must perform, to show that he has learned the skills.

* The test standard, which spells out the exact manner by which performance should be judged or rated.

When broken out this way, a performance test may seem to be somewhat complicated. Actually, that is not the case; tests must be given in a standard way. By spelling out the procedure for testing, there is some guarantee that the test will be given to everyone in the same way. If the performance test you have just read is broken out into each of its parts, you can see why it is necessary to use such a format.

Title:

"PERFORMANCE TEST 1:
PLACING THE TELEPHONE
TA-1, INTO OPERATION

The title is nothing more than a brief statement of what skill is to be tested. A good title will be direct and simple, like this one. It states what must be done: to place a TA-1 telephone into operation.

Test Situation:

"Test Situation:
(TESTER WILL READ TO TRAINEE)

'At this station, you must place the Telephone Set, TA-1, into operation and conduct a communication check. You will have 3 minutes.'"

This is the set of instructions telling a person what he must do in the test. These instructions are read to the person taking the test. The reason there is a test situation is simple: without it, a person giving

the test is free to say what to do in whatever words he chooses. By setting up specific instructions to be read to everyone taking the test, we assure that the test is givin in a standard way.

Test Condition:

"Test Condition:

Indoors or outdoors. Telephone will be properly stowed."

This example of a test condition is very brief and simple. It allows the test to be given in any location because location is not important. It also requires that the telephone be stowed properly, as would be the case if a person was actually setting one up for operation. Some test conditions may be much more elaborate, because the person may have to be tested under conditions which simulate field settings. In such cases, how the test is arranged is important, because the person must show that he can perform the skill as he would if he were in the field.

Necessary Equipment:

"Necessary Equipment:

Telephone set TA-1/PT, TL-13A wire pliers. WD-1/TT field wire."

There is no need to spend a great deal of time on this part of the test. Obviously, if a person is to perform a skill, he will need certain equipment to do what is required. This section of the test lists the equipment that

must be supplied to each person taking the test so that he can show what he has learned.

Performance Measure:

"Performance Measure 1:

REMOVE FROM CASE.

Open the case and remove the telephone.

Performance Measure 2:

CONNECT WIRE.

a. Strip approximately 1 inch of insulation from the field wire.

b. Connect the field wire to the binding posts.

Performance Measure 3:

ADJUST BUZZER.

Turn the buzzer control knob to the LOUD position.

Performance Measure 4:

COMMUNICATION CHECK.

a. Depress the generator lever to signal the other station.

b. When the signal is answered by tester, depress the PUSH-TO-TALK switch and talk."

This part forms the heart of the performance test. It lists the steps a person must follow in placing the TA-1 telephone into opera-

tion. Again, there is a need for a standard format. If a test did not include how the telephone is to be placed into operation, then a person would be free to follow any procedure he might choose. The person giving the test would also be free to decide whether the procedure used was correct or incorrect. By specifying exactly what must be done, three important goals are met: 1) The Army has established a standard procedure for performing certain skills (there may be other ways of doing the skill, but the way included in the procedures is the way chosen by experts as the most efficient or safe way); 2) the performance measures can be used to pinpoint what steps a person can or cannot do (in this way, the person giving the test can tell a soldier where he is right and where he is wrong, so that he knows where he has to improve); and 3) the performance measures help to insure that a soldier is trained to meet the test requirements. The tests are the final word. A soldier must be trained so that he can pass the test--if he is taught something different, then he is not able to meet the test requirements. Training, therefore, is built around the tests.

Test Standard:

"Test Standard:

The trainee must correctly accomplish each step. If any step is omitted or is incorrectly performed, the trainee will be a "NO-GO" on this test. The trainee's sequencing of Performance Measure 2 and 3 will not be graded but no step may be omitted. Performance Measure 4, however, is the final step in the sequence."

The first standard for the test is not given in this section, because it is a time limit. If a person must show that he can do something in a certain amount of time, he should be told that. Therefore, if there is a time limit, it should be given to the person in the Test Situation. The test standard tells the person giving the test how performance should be rated. In this performance test, specific guidance is given to the tester. He is told that each step must be done correctly. If one step is done incorrectly or omitted, then the person is rated as a "NO GO". Again, there is no half-way point; either a person can place the telephone into operation or he cannot. Because it is not important whether Performance Measure 2 is done before Measure 3, a tester is to accept the performance if the steps are reversed.

The format used for performance tests tries to make sure that all people taking the test receive an equal opportunity to show what they can do by establishing a standard procedure for giving the test. The format requires that each person is given the same instructions, takes the test under the same conditions, follows a specific procedure or set of steps, and is rated under the same standards.

Giving Performance Tests

You may have the responsibility of giving performance tests to individual soldiers or a group of soldiers trained to perform certain skills. If you have never given a performance test, you will find the following general procedure helpful in learning how to give performance tests:

Preparing to give the test:

Step 1: Read the test several times, so that you understand what is required in it.

Step 2: Assemble the Necessary Equipment for giving the test and lay it out as stated in the Test Condition. If the test condition states a specific location or site for giving the test, prepare the location as is required.

Step 3: Go through each Performance Measure yourself, doing it as required in the test. Go through the measures several times, until you have them "down pat" and can perform them yourself with ease.

Step 4: Have another, qualified person give the test to you, so that you have a chance to observe (as you are being tested) test administration by someone who knows the skills and has been giving the test.

Step 5: Give the test on a try-out basis to a small group of qualified soldiers or, at very least, to a qualified individual. This allows you the chance to practice giving the test--reading the instructions so that they can be understood, rating performance and briefing soldiers about what they did correctly and incorrectly.

Giving the Test:

Step 6: If the group of people to be tested is large, divide them into groups small enough so that you can observe each person's individual performance.

Step 7: Read the Test Situation to the group of people or to each person. Read it slowly and carefully. After you have read the instructions, ask the soldiers if they have understood what is required. If someone does not, re-read the situation to him.

Step 8: Observe the soldier or the small group as they perform each Performance Measure. You must be in a position to observe what each soldier does at each step, to see if they have done it correctly or incorrectly.

Step 9: You must have some way to keep a record of how a soldier does a Performance Measure. Usually, a test scoring sheet is provided for this purpose. For each measure done correctly, give the man a check in the "GO" column. If he is "GO" for the entire test, give him a check in the "GO" column with your initials at the end of the test. If a person cannot do a measure or omits it, place a check in the "NO GO" column at that point and rate him "NO GO" for the entire test.

Step 10: Go over the test form with the individual immediately after the test. If some soldiers were rated "NO GO", explain what they did wrong and explain to them the correct way of doing the measure or measures.

Step 11: Follow local prescribed procedures (SOP) for providing remedial training and retesting for those who failed the test.

If you have not been assigned to give a specific performance test and want to practice giving them, because

you might have the responsibility sometime in the near future, it would be a good idea to practice giving one of the performance tests being used in the course to which you are assigned. Ask one or more of the other training monitors to go through the test as you grade them--or, use soldiers who have already taken and passed the test. The important thing is that you get some practice in giving and grading performance tests so that you are at ease with them.

An example of a complete performance test was included here for your information.

Some Final Words on Giving Performance Tests

It is important that each person perform the test on his own, without any coaching or help. Otherwise, there is no way of knowing whether he has the ability to perform on his own as he would be required to do in the field.

Each person must be required to perform all performance measures exactly as required in the test. If this is not done, then there is no way of making sure everyone has been tested fairly and consistently.

Finally, the people who have been trained but have not yet been tested should not have the chance to observe the performance of men being tested before them. It is not fair to the men taking the test first. Furthermore, the purpose of the test is to check what men have learned during their training, not what they can pick up just before and during the test; observation of testing might give unfair advantages to those men waiting to be tested.

In many instances during training, particularly where tests are being used as training exercises, it is helpful for non-tested people to observe others being

tested. These kinds of situations will be discussed in another section of the Manual.

In a peer-instructional system, it is required that the peer instructor observe his student being tested so that he can provide whatever remedial training is necessary.

SECTION III

CONDUCTING PERFORMANCE TRAINING

Conducting performance training can be broken down into three phases: the preparation phase, the conduct phase, and the follow-up phase. Your duties during each of these phases will be described in detail.

Preparation Phase

Know the Skills:

The first thing to do is to make certain that you know what it is that the soldiers must be able to do as a result of your instruction. This may seem obvious, but many training monitors fail to check out the content. There are a number of things that you can do to make certain that you are teaching the trainees what they must be able to do. Look at the performance tests. They spell out in great detail what is required of the soldier--what he should be able to do as a result of your training. Army Subject Schedules are beginning to include performance tests for many subject areas. The Basic Combat Training (BCT) performance tests will be used as examples of how to build your training around the performance tests. The performance tests should be the basis for your training. If you have any doubts about the skills or what is required of the soldier, remember that the performance tests are official Army documents. These tests describe what the Army wants its soldiers to be able to do after training. In short, when you teach, teach the test and you can't go wrong.

Practice the Skills Yourself:

You will be a better instructor if you can show your students that you can perform the skills yourself. Watching others perform skills or reading about them

doesn't insure that you can do them. Take the time to practice and master the skills yourself. Have another training monitor check you out to make sure that you are performing the skills or tasks correctly. Keep working at it until you feel that you can set an expert example for the soldiers in training.

Learn the Lesson Guidelines:

If you are assigned as an instructor, lesson guidelines will probably have been prepared for you. If not, when you are preparing lesson guidelines, be sure to include requirements for the following:

Personnel. The guidelines should outline what your job is and whether you will have any assistant instructors to support you. (If you use assistants, make sure they are qualified; that is, make sure they can do the skills that are going to be taught. The best way is to check out the assistants yourself. Give them the performance tests.)

Space and Location. Lesson guidelines prescribe where training should take place and under what conditions. Space is important because your students will need to see and hear you, and they will need room to practice their skills. Location is also important and will depend upon what skills are being taught. (Assembly and disassembly of a machine can be taught in a classroom or in the field; a class on fire and maneuver can only be taught properly in the field.)

Equipment. If a soldier is to be taught to use a map and compass, he must have them for use in practice. If he is to learn how to set up a Claymore, give him a Claymore. A lesson

guideline should describe what equipment per soldier will be required for performance, "hands-on" training.

Time. A lesson guideline should state approximately how much time will be devoted to training. Remember that the time guidelines are only that: each group of soldiers will learn at different rates. It's hard to say in advance what exact amount of time should be spent for demonstration and practice. Your best guide is to spend less time talking and more time actually letting the soldiers practice the skills.

They will learn best by doing. Time required for testing will be known in advance and **should** be indicated in the guidelines for each subject.

One final point about lesson guidelines--if you will require support, it may be your job to have assistants and equipment at the right place and at the right time. If so, don't wait until the last minute to make the arrangements--plan ahead.

Rehearsal:

The final step in the preparation phase is your rehearsal of the skills to be taught and the way in which you will teach them. This is especially important if you are teaching the skills for the first time. Rehearsal involves teaching the skills to a small group of people just the way you plan to teach them to the students. Ask the people to "sharp-shoot" your performance--to give your constructive criticism. Use their comments to revise your teaching techniques.

Conduct Phase

Once you have completed the preparations described in the previous section, you are ready to conduct performance training.

Explanation-Demonstration:

The first step in the conduct of performance training is to demonstrate briefly to the soldiers the skills that they are going to learn. The amount of time spent on the demonstration varies with the skills to be taught, but you should use only the amount of time that the students require to understand what they are to do.

Make certain that all students can see and hear the demonstration. If the student group is small, have the students gather around the demonstration area so that they can easily see and hear. If the group is large, they can be divided into small groups and you can either have qualified assistant instructors demonstrating while you are explaining or you can conduct a series of brief demonstrations--one for each small group. Or, as an alternative, each group might observe the demonstration on a TV set.

When use of equipment is being demonstrated, it is particularly important that all students be able to see the parts of the equipment being talked about. Try to have the equipment in the student's hands during any demonstration. If the skill is simple and can be taught in a few minutes, students can concentrate on watching the demonstration. When the demonstration is finished, they can practice with the equipment. If the skill or set of skills is complex, it would be better to have the students follow, step-by-step, during the demonstration--they would perform each operation as it is explained and demonstrated. If the step-by-step approach is used, be sure to allow enough time between each step so that the slower students can keep up. In addition, when you are using the step-by-step approach with a large group, it is essential that assistant instructors move among the students to correct those who are making mistakes. Assistant instructors should also let you know if the demonstration is going too fast or too slowly and what

points need to be emphasized or repeated so that students will be ready for the skill practice session. Demonstrations should be accompanied by an explanation or your students may miss key points. Use words that your students will understand. Don't throw technical terms at them; such terms will only confuse them.

Skill Practice:

Once the explanation and demonstration are completed, it is time to let your students practice the skills. The purpose of skill practice is to allow the students time to become proficient in the skills that have been demonstrated. Skill practice is the second and most important step in the conduct of performance training.

How you organize students for practice depends upon the skills they are going to practice and the availability of equipment. If each student has equipment, have the students spread out and, on their own and at their own speed, practice the skills that have been demonstrated. If two students must share equipment, have the students pair off, spread out, and on their own and at their own speeds practice the skills. Pairing off also works well when one student must practice on the other, such as when applying a splint or giving artificial resuscitation in First Aid.

Skill practice requires close supervision because no matter how thorough the explanation and demonstration, some students will forget, some are slow learners, and some will just not have paid attention. Move among the students, watch what they are doing and tell them how they are doing and answer their questions. If you see a student doing a good job, praise him. If you see a student making a mistake, correct him right then so that he can learn to perform the skill correctly. If you see a student "goofing off," explain what he should be doing and see that he practices. The best time to answer questions is during the

practice time. You may have to repeat yourself many times, but the soldier is getting information at the time he needs it most. Since the students are normally spread out during skill practice, supervision will be difficult. This is where your assistant instructors can help you. Let them share the supervising job, observing the students and answering questions.

When two or three students are sharing the same piece of equipment, the faster learner in the group often handles the equipment while the slower learners in the group only watch. As a result, the slower learners do not get the practice that they need. You must be sure that everyone in the group uses the equipment, with top priority going to the slower learners.

"Check-Out" Testing:

The third step in the conduct of training is the "check-out" test. The purpose of the check-out is to let you and your students know whether they have mastered the skills according to the performance test. Some students will be ready for a check-out after only a few minutes of skill practice. Other students may need skill practice for the entire time period and still not be ready for your check-out.

How do you know when a student is ready for a check-out? There are two ways: 1) if, during your supervision of skill practice, you see a student who has the skill "down pat," call him aside and check him out; 2) if a student comes to you and tells you that he is ready for a check-out, check him out.

When you conduct a check-out, you must test each soldier according to the standards of the performance test. You must be rigid on this point. Make it a thorough test of the soldier's ability to perform the skill. Your best guide is: never deviate from the performance test.

Some of the students you check-out will meet the test standards and will pass the test. Compliment them and note their success on the record. If there is time, assign them to help those students whom you noticed were having difficulty during skill practice or who have failed their check-outs. Some students will not meet the standards and will not pass the test. Point out their mistakes, show them how to perform the skills correctly and then have them continue their skill practice. If possible, pair them with students who have passed their check-outs so that they can receive help. Tell them to report for another check-out when they feel that they are ready. Be sure to note their failures on your test records because these men require "follow-up."

Follow-Up Phase

Because students differ in their prior knowledge, ability and motivation, you will encounter two problems in every training period: 1) what to do with students who succeed in learning the skill before the period is over (pass your check-out) and 2) what to do with students who fail to learn the skill before the period is over (fail your check-out).

When students pass their check-outs before the period is over, you may use them to help students who are having difficulty (as described above), or you may use them at "pre-check-out stations." Since check-outs should always be conducted by a qualified training monitor, there may be times when there are more soldiers ready to be checked out than monitors can handle. Rather than have them sit and wait, have the soldiers who have passed the check-out set up a pre-check-out station. Students who want to be checked-out could then go to the pre-check-out station first and be run through the test unofficially. If they pass this pre-check-out, they can then come to a monitor for their official check-

out. If they fail the pre-check-out, they can return to practice without having wasted the time of a training monitor in giving a test to a non-prepared student.

You may have a few students who fail to pass their check-outs before the practice period ends. What do you do with these students? They must take remedial training at a time and in a way dictated by either the training system or local policy. Your responsibility is to record the names of those soldiers who were unable to learn the skill in the time allotted and submit your records to the administrative section. Arrangements will be made for these soldiers to receive remedial training until they either acquire the skills and pass the test or are dropped from the course.

Make-Up Training:

Make-up training is given to soldiers who missed scheduled classes and includes review or refresher training. Normally, you would give make-up training to your soldiers yourself, but if you have qualified trainee leaders or peer instructors in your unit, there is no reason why you can't have them conduct make-up training. Your responsibilities then are to make the teaching assignment, provide the necessary equipment and facilities, and conduct the check-out of each soldier. Remember, whoever conducts make-up training should follow the basic performance-training ideas--short demonstration and explanation, lots of practice and a check-out. If you use trainee leaders to teach the soldiers, remember that it is your job to check out each soldier. In this way, you can control the quality of the training.

Remedial Training:

Remedial training is given to soldiers who failed their check-outs. Your responsibility is to teach only

those skills which the soldier failed to learn. In order to give remedial training, you need to know which persons in your unit failed what skill(s) during regular training. The administrative section should have a roster of soldiers who were "NO-GO's." The roster should list the names of the soldiers and which skills they failed to learn. Remedial training can be given by you, by one of your qualified trainee leaders or by a peer instructor if the course is set up in a peer-instructional system. If you pass on this responsibility to a student, be sure to arrange for necessary equipment and facilities and then conduct the check-out yourself. Soldiers who fail repeatedly should be referred to the administrative section for processing according to prescribed practices.

Review of Refresher Training:

If a person who has learned a skill doesn't use it, he gets "rusty." This is where review (or refresher) training is helpful. In review training there is little need to conduct an explanation or demonstration of the skills involved. The emphasis should be on "hands-on" practicing. If you are reviewing soldiers in a set of skills, it is a good idea to begin with a check-out. A check-out would separate those who can do the skills from those who cannot. Those who can, may be used as assistant instructors. While all students can profit from additional practice, special attention should be given to those soldiers who fail the check-out at the beginning of the review session--they are the ones who need more time to practice.

The check-out phases of review training should, as always, be conducted by you. Qualified students can be used (as described earlier) to give the explanation and demonstration and to supervise the skill practice of those students who fail their check-outs.

How you organize for review training depends upon the amount of time, equipment, and personnel available and the number of students needing review. You might set up a "county fair" system, which would involve a number of check-out and supporting practice stations, each covering a different set of skills. The check-out stations would be manned by qualified training monitors and the practice stations by qualified students. Students would rotate through the check-out stations--those who fail would be assigned to the appropriate practice station. When they have mastered the skills, they would return to the check-out station to be re-tested. Students who pass the check-out the first time immediately move on to the next station.

If resources are limited, you may only be able to set up one check-out station. Each soldier would have to go through the same station. Those who failed their check-outs would be assigned to a remediation station conducted at a later time, possibly in the evening. Or, you might use the time when the soldiers are waiting for their next training period or waiting to eat. If you plan carefully, you can use this system to review two or three skills each day if necessary.

Perhaps the most difficult aspect of review training is being sure that all soldiers are checked out (including those on KP, Guard Duty, etc.) and that those who fail their check-outs receive remedial training and futher check-out. The only way to insure that this is done is to keep a record of each student's progress. One possible way to keep this record is shown below. Along the top row are listed sets of skills in a given subject. Along the side are listed the names of the students. A blank space indicates that a soldier was not checked out. A single diagonal line indicates that he was checked out but failed. Crossed diagonal lines indicate that he was checked out and passed.

	DC-1	DC-2	DC-3	FA-1	FA-2
Baker, Sam	X	X	X	X	
Clemens, Frank	X	X	X	X	/
Eagon, Harold	X	X	X	X	X

in the above example, Baker needs to be checked out on FA-2. Clemens needs remecial training and another check-out on FA-2, and Eagon has passed all his check-outs.

Acting as an Assistant Instructor:

If your trainees are being taught by a training committee, you may be expected to be present to act as an assistant instructor. In this situation, you are acting under the direction of the committee instructor. One of your responsibilities during committee training would be to assist in the supervision of skill practice. The best way to help is to move among the trainees to see what they are doing and then provide "feedback." Feedback means that you compliment the trainees when they are doing well, make corrections when they make mistakes, answer their questions and motivate them when they need it.

Another thing you would do would be to keep records of those students who are absent and those who pass and fail the check-outs. The absentees will require make-up training. Those who fail will require remedial training at some other time. Your chief duty as an assistant instructor would be to support and cooperate with the committee instructor, who will outline in detail how he wants you to help him.

SECTION IV

THE DIFFERENCE BETWEEN PERFORMANCE TRAINING AND CONVENTIONAL TRAINING

The ideas behind conventional training have been taken from the usual methods found in the schools. You probably know these ideas well, because you have probably gone through a public school.

The main method used by schools is the lecture method. A group of students is placed in a classroom with a teacher. The teacher stands in front of the class and lectures. The students are expected to take notes, recite and ask questions. The lecture method makes the teacher the main actor. He is the one who does most of the talking. The role of the student in the classroom is passive. His main job is to listen to what the teacher says and respond to the teacher's questions.

The way most schools rate a student's work is by grades. At various times, students take tests, hand in reports and homework and answer questions. The work the student does is given a grade of "A" through "F".

The schools are also interested in how much material can be covered in a time period. During the school year, a teacher may have to cover American history, geometry, or any of a variety of subjects. His goal is to stick to the schedule and make sure he has covered what he was supposed to cover during the time period.

Performance training departs from the ideas that are the basis of conventional training, because the ideas are not useful for Army training. Because much of Army training is concerned with teaching soldiers how to perform skills--things which they must be able to do--many of the teaching and grading techniques used in schools do not apply.

The lecture method does not make a great deal of sense when a student is being taught a skill. If he is to learn how to operate a radio, climb a telephone pole, fire a weapon, it does not do very much good to lecture to him about these skills. He is able to learn best by acually doing these things. Therefore, in performance training the role of the student is modified so that he becomes active. The student is the one who becomes active.

In performance training, the use of the lecture technique as the main means of instruction drops out. The teaching techniques of demonstrating and practicing move to the forefront and allow the student to learn actively--to learn by doing. Thus, one major difference between conventional and performance training is in the ways people are taught. In conventional training, students are taught by the lecture method. In performance training, students learn actively--through practicing and actually doing the skills.

The role of the instructor also changes. He must help the student learn by allowing him as much time as possible to practice. He no longer has to stand in front of the class for long periods of time. Instead, he demonstrates the skills to the students and tells them briefly why the skills are important and what are trouble-spots in learning the skills. His main role becomes one of monitoring and supervising the practicing of the skills.

Performance training systems do not use grades to rate a student's learning, as public schools do. Instead, performance training systems rate a student's learning as passing or failing--or "GO", "NO-GO". It does not serve any useful purpose to say that a student's learning is of "A", "B",..or "F" calibre, when he is being taught skills. Either a student can operate a radio or he cannot. Either he can fire a weapon and hit a

target or he cannot. The important point is that a soldier must apply the skills he learned in training while he serves in a unit. His commander is not very interested in knowing that a soldier operates a radio at the "C" or "D" level, or 70% correctly. He wants to know whether the soldier is able to make the radio work, and send and receive messages with it. In short, he wants to know whether the soldier can do the job or not.

From the viewpoint of the soldier himself, it is not helpful to send him to a job when he can do something only fairly well. It is the responsibility of the people who are training him to make sure that he has learned to do the required skills according to the standards the Army has set up. If he cannot, he should not be sent on to a unit; he should be trained until he can actually meet the standards.

Instead of using grades, performance training sets up standards that all soldiers must meet at the end of training. Those who do not meet the standards at first are retrained until they can do so. In this way, the Army tries to guarantee that all soldiers are able to perform a set of skills when they leave training.

Under conventional training, instructors are concerned with covering a certain amount of material in a certain period of time. Instructors look at material not from the viewpoint of what students are able to learn in a certain amount of time, but what they can lecture about or cover in the allowed time.

In performance training, the reverse is the case: material is arranged by priority from the standpoint of what soldiers can learn in a block of time. Thus, the skills selected to be taught to soldiers are those which are of high priority and which they can learn--rather than what the instructor can talk about. In

this way, performance training places the student in the center and is concerned with what skills students should learn--not how much information can be given out in a set amount of time.

In summary, the differences between performance and conventional training are:

a. Conventional training relies on the lecture as its chief method of instruction. Performance training uses short demonstrations and learning by doing as its main means of instructing.

b. Conventional training places the instructor in the central active role. Performance training makes the student active and centers instruction around him--giving him the time and support he needs, in order to learn.

c. Conventional training selects content in relation to what the teacher can present or cover in a certain amount of time. Performance training digests content into a set of high priority skills which are important for students to learn in the time alloted for training.

d. Conventional training uses grades to rate what the student has learned. Performance training sets standards which all students must meet. When a student does not meet the standards, he is kept in training until he does so. He is not permitted to go on the job until he can perform the skills to the required standards.

SECTION V

PRINCIPLES OF PERFORMANCE-TRAINING SYSTEMS

Over the years, many useful and desirable principles of instruction have been identified and used. In most cases, however, these principles have been used alone or in combination with only one or two other principles. In order to develop a systematic, effective and cost-feasible approach to performance-based instruction, the following recognized principles were selected and combined into an inter-dependent whole:

a. Performance-based instruction ("hands-on").

b. Absolute criterion (go/no-go)

c. Functional context (job-related)

d. Individualiaztion (self-pacing)

e. Feedback (knowledge of results)

f. Quality control (instructional system checks).

A brief discussion of each of these principles follows.

Performance-Based Instruction

Under this principle, the student learns the skills necessary for job performance. Emphasis is on active skill practice--doing, rather than describing skills. Any lecture-centered instruction is curtailed (if not eliminated). Practice of skills receives the greatest stress. The soldier sees a perfect performance demonstrated and practices until he can perform the skills of a job without error. The soldier is permitted to get his hands on equipment from the very beginning of instruction and practices as many times as necessary until he becomes proficient. Performance training is

the most effective means of breaking away from the previous practice of talking about skills rather than doing them.

Absolute Criterion

Every student is required to reach the same, set standard of performance in each skill area. Assessment is on a "go/no-go" basis. The student who does not reach the standard of performance on an initial assessment receives additional practice until he does reach it. The standard is performance of the entire skill or set of skills required for his job without error. The soldier who does not pass a test on his first try is given a retest or successive retests until he is proficient.

Functional Context

The student learns in a job-relevant situation. Theoretical/technical material is presented only when it is needed in learning to perform job skills. Application of this principle breaks up the blocks of subject material and integrates the more verbal/academic material only where the student needs to use the knowledge. For example, a long instructional period on nomenclature of a weapon is a boring memory exercise for the trainee. Applying the principle of functional context, the nomenclature period is discarded as an isolated instructional block and the technical name of a switch or lever is taught when and where the soldier has to use it.

Individualization

For various reasons, people learn at different rates. To the greatest extent possible, a student in a performance training system is permitted to learn skills at his own rate. This principle allows the soldier to practice skills as much or as little as he needs; that

is, he may go quickly through the sequences if he feels confident or he may take more time and ask for help if he needs it. The soldier who, in practice, has demonstrated his proficiency in a skill is allowed to undergo a test by the training monitor and is not held back for repeated practice. Slower learners are given every opportunity to practice and become confident in learning skills and are not forced to undergo tests until they are ready to do so. Often the slower learner can be brought to the required level of proficiency by receiving individual help from a monitor or another student who has already been "checked out".

There are different ways in which self-pacing may be accomplished. Programed instruction is strictly self-paced--every student is on his own. However, there are some major drawbacks to programed instruction: 1) it is extremely expensive to develop and maintain; 2) it is usually not conducted in a functional context; and 3) it is not effective for poor readers.

In some instructional systems--such as the fixed-flow peer-instructional system described elsewhere in this Manual--the actual acquisition of skills is self-paced, but the student's overall length of time in the course if fixed. In other words, the student cannot, to any meaningful degree, be accelerated through the course and graduated early.

In free-flow instructional system, it is possible for the student to enter, progress through and leave the course on an entirely self-paced basis.

The objective, of course, is to train soldiers in the most effective way--including cost-effectiveness. Selection of the particular method of self-pacing is entirely dependent upon the constraints to be considered: Cost, time appropriateness of instructional method for the training input and the MOS requirements.

Feedback

To the extent the training monitor knows how well his students can perform, he can modify his methods to be more effective. To the extent the student knows about his own skill acquisition, he can correct errors and improve his performance. Immediate feedback has obvious advantages to both the monitor and the student. Both know how the student is learning, because there is ready evidence in the nature of the student's performance. Both can easily see where the student is having problems and where additional practice and instruction are necessary.

Quality Control

One of the most important responsibilities of the Training Center is ensuring that course graduates have been trained to prescribed standards and that they meet minimum requirements for going on to further training or to a unit MOS assignment. Under a performance training system, the student is given performance tests on a go/no-go basis where he can demonstrate his proficiency in the required skills. Quality control begins in the instruction area. As students complete skill acquisition in a subject, they are given a "check-out" test by a training monitor who uses performance tests as described in Chapter I as the basis for determining proficiency. Students are allowed retests until they achieve proficiency or are dropped from the course. Academic drop rates in performance training system are lower than those in a lecture-centered system.

Testing of students is conducted periodically throughout the course to be sure that each student is meeting the required standards. Quality control of the training system must also be conducted periodically during and at the end of the course. One approach is to have a

randomly selected group of soldiers demonstrate mastery of all job skills. Another approach is to have all soldiers demonstrate mastery of randomly selected skills in each subject area.

Results of quality control sampling must be examined carefully--high pass rates might mean that the training is being conducted extremely well or it might mean that testing is lax and needs tightening. On the other hand, high failure rates on an end-of-course quality control test usually mean that testing somewhere earlier in the course is definitely in need of tightening.

In most cases, quality control measures will be built into the training system and the training monitor will not have to worry about interpreting results--this will usually be done by the administrative section.

SECTION VI

MANAGEMENT OF TIME AND RESOURCES

The soldier undergoing performance training is faced with the requirement to perform skills or tasks that will be required in his MOS assignment. His performance of the skills or tasks must be complete--on a 100% basis. It is not expected that the standards applied in training will be the same as might be applied to an experienced soldier who has served in the job for many months. The proficiency of the AIT graduate need only meet defined, job entry-level standards. To attain the stated standards of performance to meet MOS requirements, periods of skill practice are provided before the soldier is required to perform the skills on his own without coaching (e.g., on a test). Some of the more complex or difficult skills take more practice time than the relatively simple ones. Whatever practice time is allocated, every soldier must perform all job requirements so as to meet the set standards. There may be times when allowances for practice time or time for remedial training and re-testing are not enough and periods must be provided after duty hours.

Utilization of Unscheduled Time

Scheduled time is seldom available to the unit commander to conduct review and remediation, or if it is, it is often too brief a period. Skill practice periods for review and remediation are needed for the slower learners who do not pass their check-outs during scheduled instructional periods; for those students who missed formal instruction due to hospital appointments or other administrative reasons; and to review all students prior to their taking end-of-course proficiency tests. This review and remediation must be provided after duty hours by the unit commander when

the soldiers are in the barracks. Also, when open periods occur during the scheduled training day, maximum use of this time should be made for review or remediation.

Organization of Classes

Keep the student-instructor ratio low and organize classes using all available monitors to place the smallest number of students possible in a group. One instructor to one student is ideal--if this can be attained. (In some courses, such as those where peer instruction is used, this one-to-one ratio is built in.) Each student should receive as much individual instruction and attention as possible. When he is in a very small group or working one-to-one with a monitor, he can see the detailed sequences of each performance, can hear the instruction, can work at his own pace, and can ask questions without holding up anyone else in skill practice.

Personnel Resources

All permanently assigned personnel of the training unit are available as monitors of skill practice. If one person specializes in several subjects, he may be the primary monitor and organizer of the review and remediation periods for those several subjects. However, all personnel should be knowledgeable of the subject material; be proficient in the skills themselves; and be qualified to give check-outs to the students.

An additional personnel resource may be found within the student unit. The more the students are involved in giving each other review for performance tests, the greater their interest and their desire to reach proficiency will be. Committees consisting of a training monitor and a number of student assistants may be assigned to conduct review in a subject.

Equipment and Training Aids

Additional quantities of equipment, above the levels needed for formal class instruction, are stocked in the Training Center equipment pool. This additional stock is specifically set aside for the training units to use during their after-hours review periods. Since the equipment must be available to all the training companies on a rotating basis, advanced planning is required for dates and times of training review periods and requisitions for equipment. Normally, the equipment will be delivered just prior to the review period and must be returned the next day in order to be available for other units. However, local Training Center policies and amounts of equipment on hand may allow units to keep equipment for longer periods. If equipment is extremely limited, repeated review periods must be held and students rotated through use of the equipment to ensure that each student receives an adequate amount of skill practice. When this situation exists, it is practical to have other items of equipment available, permitting a "county fair" setup where students may be rotated from one station to another until each one has completed all stations.

Training aids for review periods are requested in the same manner as equipment. ETV sets adapted to show ETV tape cassettes are stocked by the ETV facility and can be loaned out to units wishing to show the tapes of performance tests. Tape cassettes are also stocked at this facility.

Additional Opportunities for Skill Practice

In addition to the "county fair" method mentioned above, opportunities often arise during the training day when time is available for skill practice. Examples are: troops awaiting transportation, behind the firing line on weapons ranges, and whenever a subject is completed ahead of schedule. In each case, the unit must be

organized to take advantage of the opportunity. At weapons ranges, those awaiting their turns to fire can be given skill practice related to the weapon (such as disassembly and assembly). One successful method of review has been observed in unit areas, where those waiting to go into the mess have the opportunity to take a performance check-out; training monitors and equipment are on hand.

SECTION VII

PEER INSTRUCTION AND TUTORING

The term "peer instruction" has been used more and more in regard to Army training lately. Usually, when people hear or see the term, they think of faster learners being selected to help slower learners along through the training. However, this is not actually peer instruction, it is tutoring or coaching.

Peer instruction in the pure form, as used in several Army training courses, is a formalized and systematic approach which might better be called "turn-around teaching" because it requires every student to teach another student the skills he has just mastered. At the present time there are two formalized peer-instructional systems in use by the Army. One system is dependent upon a steady and fairly equal input of students; and, students must follow a fixed path through the course. This system is referred to as the "fixed-flow" system.[1] The other system allows students to enter or leave the course at any point and is not dependent upon fixed input. This is referred to as the "free-flow" system.[2]

A system is defined as a complex of ideas, principles or facts united by some form of regular interaction or interdependence--an organized, coherent whole. Systems

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[1]See HumRRO TR 72-35, Weingarten, Kenneth, Hungerland, Jacklyn E. and Brennan, Mark F., "Development and Implementation of an Quality-Assured, Peer-Instructional Model", Alexandria, VA, 1972.

[2]See HumRRO TR 72-28, Hungerland, Jacklyn E., Michaels, Eugene R., Taylor, John E., "Development and Pilot Test of a Career-Oriented, Peer-Instructional Model in the Office Cluster of Business Occupations," Alexandria, VA, 1972.

are also methodical and organized. An instructional system is a presentation of training or instruction in this organized, coherent--systematic--fashion.

Peer-instructional systems are composed of unified principles--each principle being selected and used for specific reasons. The "fixed-flow" and "free-flow" systems referred to above both incorporate the six important instructional principles spelled out in Chapter IV. Of particular importance in each system is the requirement that every student teach another student skills he himself has just mastered. Before students can be allowed to teach others, they must demonstrate that they have, in fact, mastered the skills at the level defined by experts. This is why students must pass all the requirements of performance tests (as described in another section of this Manual). Once a student has mastered the skills, he can "turn around" and teach another, incoming student. Simple guidelines for the peer instructor ensure that he teaches his student all of the required skills. In addition, the performance tests are always available for reference. (In performance, peer-instructional systems, tests are not secret--you teach the test, and testing is done on a Go/No Go basis). During a student's test, it is important that his peer instructor be on hand as an observer--he is not allowed to help the person being tested, but he must observe so that he will know what, if any, remedial training his student will need, should he get a No Go on the test.

Peer-instructional systems have been used with great success in the Army and in public education. There is never any selection of peer instructors, since everyone is required to teach, but it turns out that everyone--with very few exceptions--can teach the required skills and enjoy doing it. As a matter of fact, it is the slower learners who gain the most from the teaching experience. The added practice and review of skills as they teach someone else give them more confidence in

their own abilities and have the effect of "locking in" the skills so that they are far less likely to forget them.

All the research that has been done with tutoring-- in other words, advanced students coaching others in lesser skills--shows that the ones who benefit most are the tutors. This is one reason the teaching requirement is build into the peer-instructional systems, where "turn-around teaching" is the basic (if not only) method of instruction. You might wonder, then, what you--as an instructor or training manager--would be doing in the training program. To put it briefly, you would not be required to give lectures or any kind of platform instruction. You would take on a greater responsibility, since it would be up to you to see that the testing is strict and done properly to be sure that soldiers are qualified to progress to their instructional roles. You would also be responsible for supervising any remedial training that might be needed and for seeing to it that the graduate is truly qualified in the required skills. In addition, you would have administrative responsibilities and would become a training system manager.

If you are in or are going to become involved in a course where a peer-instructional system is in operation or is going to be started, your role and job requirements will be well-defined in the design of the system, and you--as an individual--will become an integral and important component of the system.

What if you're not involved in such a system? Suppose you're responsible for training in a system where there is no formal provision for peer-instruction? In such a case, you might want to take advantage of tutoring. However, as mentioned before, if you want the students to get the most from a tutoring program, you should--as often as possible--allow the slower learners (once they have mastered the skills) to tutor others. Some-

times this may not be possible, because time will not allow it. That is usually why faster learners are most often used as tutors.

There will be times when you will need assistant instructors, and you will probably choose students you think are very "sharp" or "on the ball." If you do use these people as coaches for slower learners, make every effort to then use that slower learner as a coach for someone else who is having trouble with the same skills. "Slow" learning is often caused by a lack of motivation. If you give slower learners a chance to help someone else, you will probably find an increase in their motivation and they may not, thereafter, turn out to be slow learners at all, but motivated, interested soldiers making a greater effort to learn the required skills as well and as fast as they can.

The proponent of this pamphlet if the Office of the Deputy Chief of Staff for Schools and Training Centers. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications) through channels to the Cdr, TRADOC, ATTN: ATTS-SKB-A, Fort Monroe, Virginia 23651.

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